Remarks

Entry of the above-noted amendments in conjunction with the accompanying Request for Continued Examination and reconsideration of the application are requested. Claims 2-7, 9, 10, 13, 14, 16 and 17 are pending.

Claim Rejections - 35 U.S.C. §103

MPEP §706.02(j) states: "To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)." MPEP §2143.01 states: "Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved, as a whole would have suggested to those of ordinary skill in the art. In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992)."

All claims were rejected under 35 U.S.C. 103 as being obvious based on Ginzburg (U.S. Patent No. 6,078,919) in view of Packer (U.S. Patent No. 5,802,106) and Lipa (U.S. Patent No. 6,061,722). Applicant respectfully submits that the applied references, with or without modification or combination, assuming, *arguendo*, that the modification or combination of the applied references is proper, does not teach or suggest one or more elements of the claimed

invention, as further discussed below. Applicant respectfully traverses the rejections and seeks withdrawal of the rejections resulting in allowance of the application.

In accordance with claim 2 the invention is directed to a system for measuring network round-trip time and comprises a client computer adapted for communications with a server computer. The client computer includes a processor and memory containing definitions identifying fast response operations initiated by an application program running on the processor. A monitor and analysis engine includes an analyzer for detecting the presence of at least one of the fast response operations. The fast response operations are certain operations associated with normal running of the application program where the application program itself is not programmed to participate in determining the round trip time. The application program requires the transmission of a first packet to the server computer and receipt of a second packet from the server computer in response to the first packet. The monitor and analysis engine calculates the round-trip time when a fast response operation is detected based on the time interval beginning with the transmission of the first packet and ending with the receipt of the second packet.

It should be especially noted that the fast response operations are associated with the normal running of an application program where the application program itself is not programmed to participate in determining the round trip time. Definitions stored in memory identify the fast response operations. That is, not all operations requested by the application program will be fast response operations. A fast response operation will be one in which the server receiving the request will be able to process it and send a reply packet without substantial time delay, e.g. without a time delay that is significant as compared with the overall round trip delay. Thus, a responding packet sent from the server can be assumed to be sent with no substantial time delay as compared to other time delays in the round trip communication. None of the references applied in rejecting claim 2, considered individually or in combination, provide such a teaching.

Ginzburg addresses the delivery of data over a network based on a determination of network parameters. The invention of Ginzburg takes a "snapshot" of network conditions just prior to the initiation of a data transfer, and optimizes the actual data transfer by calculating an internal buffer size based on the information collected; column 3, lines 25-29. This is contrary to the

present invention as defined by claim 2 where an analyzer detects the presence of a fast response operation of an application program where the application program itself is not programmed to participate in determining the round-trip time between the client computer and the server. That is, the snapshot of Ginzburg occurs prior to a requested data transfer, such as by an application program, in order to set an internal buffer size for use during the subsequent requested data transfer. Further, the measurements and calculations made by Ginzburg are clearly initiated and handled by a program intended for this function. The teaching of Ginzburg is not substantially different from previously applied art in the previous Office Action which utilized a known "ping" function independent of application programs to determine connectivity between a client and a server. Therefore, Ginzburg does not teach or suggest several of the limitations required by the present invention as defined by claim 2.

Packer ('106) is directed to data rate detection in a packet communication environment without data rate supervision, e.g. a TCP/IP network. As pointed out in the Office Action, it monitors timing associated with a first Sync packet and a responding ACK packet that are communicated between a client and a server. As shown in FIG. 1 of Packer, rate detection device 26 is preferably inserted in series with the data communication channel adjacent the server. The Sync and ACK packets are believed to be understood by those skilled in the art to form part of the system level communications protocol that function independent of specific user application programs. This is contrary to the requirements of claim 2 of the present invention. As contrasted with the requirements of claim 2, the Sync and ACK packets cannot fairly be said to correspond to fast response operations since such packets form part of the system level communications function that is not controlled or initiated by an application program as required by claim 2. For example, Sync and ACK packets are routinely generated for various reasons associated with monitoring and maintaining the communications link independent of whether an application program is or is not running at the client. Unlike the system of claim 2, Packer does not rely upon particularly defined fast response operations carried out as part of the normal operation of an application program.

Lipa is directed to a system that supports a plurality of servers where each server hosts a specific game accessed by a plurality of remote clients (gamers). It provides for the automated measurement of network performance characteristics without interfering with normal network operations; see column 1, lines 9-11. Before a gamer is allowed to begin the play of a game associated with a server, a performance assessment is made prior to allowing the gamer to begin the play of the game. This is done to ensure that the computing hardware utilized by the gamer as well as the communication link between the gamer and the server hosting the game will provide acceptable facilities to permit the gamer to enjoy the playing of the game. For example, if the speed of the communication link between the gamer and the server is too low, the software on the gamer's computer will prevent the gamer from beginning the play of the game.

The flow chart of FIG. 3 of Lipa describes such an evaluation. The front end (part of the gamer's computer) receives pingd addresses from the central monitor process. To measure latency the front end sends a series of packets to each pingd address. The time of transmission is recorded. When the pingd node 106, 116 receives a packet, it returns a copy of the packet to the front end. The front end measures the elapsed time for the packet round-trip. See column 7, lines 1-9. Therefore, Lipa is substantially similar to prior art applied in the prior Office Action in that it consists of a conventional "ping" session intended to specifically address round-trip packet measurement. This is not equivalent to requirements of claim 2 of a fast response operation initiated by an application program where the application program itself is not programmed to participate in determining the round-trip time. In Lipa, the ping session is conducted by the gamer's computer where the pinging process is specifically intended to determine the round-trip timing.

Neither Ginzburg, Packer nor Lipa teach or suggest the use of fast response operations associated with normal running of an application program where the application program itself is not programmed to participate in determining the round-trip time in which the application program requires the transmission of a first packet to a server in the receipt of a second packet from the server. That is, the analyzer makes use of certain fast operation packets generated during the normal running of an application program to determine the round-trip time between the client and the server without having to send specialized packets such as a "ping". This is not taught by

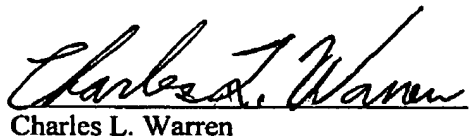
any of the three applied references. Hence, whether the references are considered individually or collectively, the present invention as defined by claim 2 is not rendered obvious. Therefore, withdrawal of the 35 U.S.C. 103 rejection of claim 2 is believed to the proper.

Claim 6 further defines the invention of claim 2 by adding an additional requirement of a packet duplicator at the client computer for intercepting and duplicating the first and second packets, and forwarding the duplicated packets to the monitoring and analysis engine for analysis. It should be noted that the packet duplicator resides at the client computer and that it duplicates the first and second packets and forwards the duplicated packets to the monitoring and analysis engine (also part of the client computer) for analysis. Although the same three references and the same explanation was provided in the Office Action for the rejection of claim 6 as was provided for the rejection of claim 1, no language appears to be provided in the Office Action explaining where the limitations of claim 6 are to be found in any of the three applied references. It will be understood that the mention of conventional ping packets in the references is not equivalent to the required packet duplicator in which the packets are duplicated at the client, i.e. a conventional ping initiated from a client would not result in a duplication of the packet by the client. This limitation, when considered in combination with the elements of the parent claim, provide further patentable distinctiveness and is not believed to be suggested by the applied art.

Independent claims 9 and 16 are believed to be allowable for similar reasons discussed above with regard to claim 2.

In view of the above amendments and remarks, allowance of all claims pending is respectfully requested. If a telephone conference would be of assistance in advancing the prosecution of this application, the Examiner is invited to call applicants' attorney.

Respectfully submitted,



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